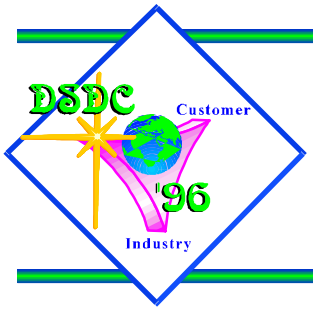

MVS/ESA

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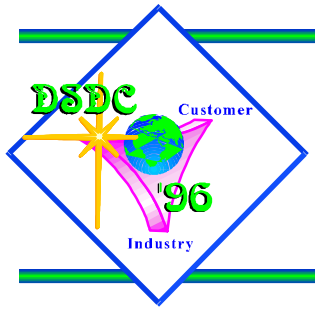


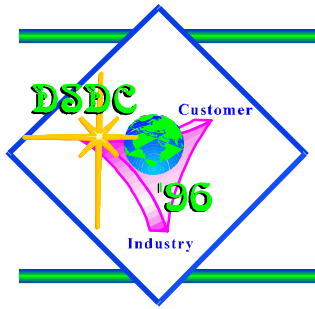
INTRODUCTION

What Is MVS/ESA

Why Convert To MVS/ESA

What Becomes Possible With MVS/ESA

- **Traditional Mainframe Environment**
- **Open Environment (OS/390)**



WHAT IS MVS/ESA

MVS/ESA Stands For Multiple Virtual Storage/Enterprise Systems Architecture

It Is The Result Of An Evolutionary Process

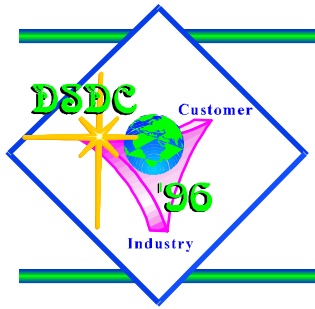
Beginning With The IBM 370

With Its Roots In The IBM 360

It Has Evolved In Response To

Growth In Hardware Power

Demands Created By Growing User Needs



HISTORY

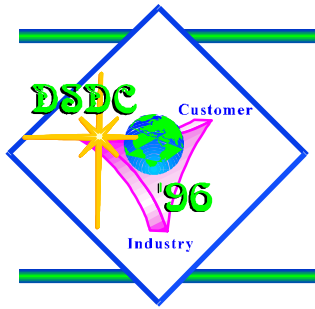
Original MVS Used 24 Bit Addressing

This Limits Direct Memory Addressing To 16 MB

When The Average Mainframe Had Far Less Than 16 MB Of Real Memory, This Did Not Seem To Be A Problem

However, Over Time, This Became A Severe Problem For Most Users

IBM's Response To This Was MVS/XA



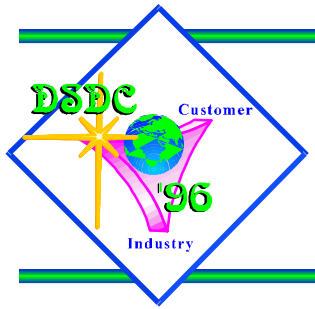
HISTORY

MVS/XA (Extended Architecture)

Went From 24 To 31 Bit Addressing

This Increased Addressability From 16 MB to 2 GB

Like The Original MVS, The 2 GB Address Space Contains Both System And Application Code And Data

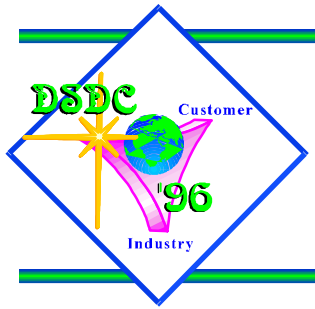


HISTORY

In General, The 2 GB Address Space Is Adequate

However, It Can Limit Full Exploitation Of The Resources Available On Modern Systems

IBM's Response To This Was MVS/ESA

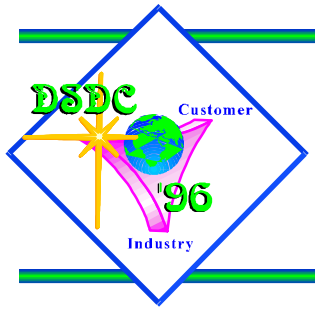


THE DATA SPACE

Among Other Things, ESA Introduces The Concept Of A Data Space

While an Address Space Contains Both Code And Data, A Data Space Contains Only Data (Up To 2 GB Each)

We Will Return To This Concept Later



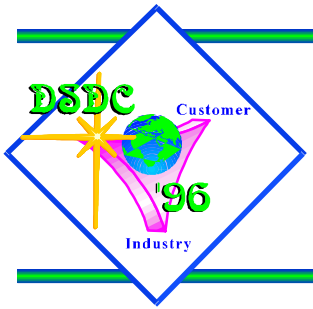
WHY ESA

Why Convert To MVS/ESA

Prior Versions Of MVS Are No Longer Supported By IBM

A Recent Survey Of MVS Users Showed That 92% Were At Supported Levels Of MVS/ESA

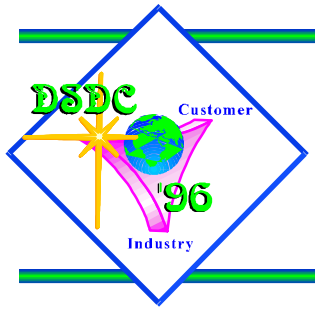
Less Than 4% Of Respondents Were At MVS/XA



WHY ESA

Why Convert To MVS/ESA

- Will Provide Full Year 2000 Date-Field Support On All Components
- Allows Users To More Fully Exploit The Hardware Capabilities Now Available
- Unix Services Compliant With The X/Open Single Unix Specification Are Available
- DISA Will Be Migrating The DLA Production Environment To MVS/ESA



OS/390

Why Convert To MVS/ESA

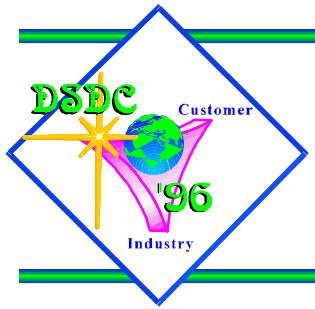
OS/390 Benefits

OS/390 Is IBM's Latest Packaging Option

Bundles Over 25 Products And Features Into A Pre-Tested Package

Installation, Testing and Maintenance Greatly Simplified

Includes All Functions Needed To Support X/Open Single Unix Specification



POSSIBILITIES - MAINFRAME

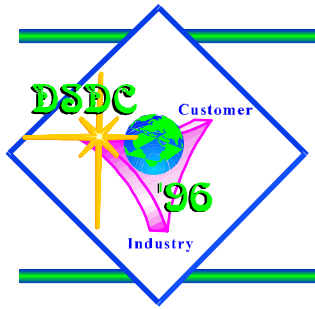
What Becomes Possible With MVS/ESA

Traditional Mainframe Environment

MVS/ESA Is Largely About I/O Avoidance

As Mainframe Hardware Has Evolved, The Speed Gap Between The Processor And Disks Has Grown Dramatically

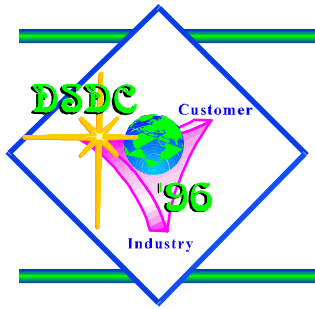
CPU Speeds Are Measured In Billionths of Seconds
Memory Speeds Are Measured In Millionths of Seconds
Disk Speeds Are Measured In Thousandths of Seconds



I/O AVOIDANCE

What Becomes Possible With MVS/ESA

- High Performance Applications Depend On Avoiding I/O Delays Caused By Access To Disks
- ESA Provides Facilities Which Allow Large Amounts Of Data To Be Stored In And Accessed From Memory Thus Avoiding Disk I/O
- The Evolution Of MVS Can Be Viewed As A Continual Extension Of The Amount Of Memory Than Can Be Addressed By Programs
- The ESA Data Space Contains Only Data (Up To 2 GB) And Is Fully Addressable



I/O AVOIDANCE

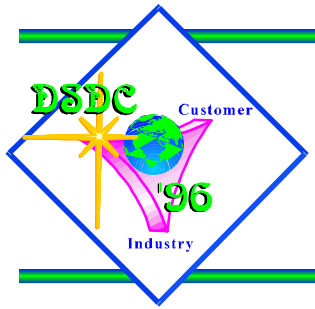
What Becomes Possible With MVS/ESA

This Allows Programs To Access Large Amounts Of Data Loaded In Memory (Potentially Entire Files)

Data In Memory Avoids I/O To Disk And The CPU Cycles Associated With That I/O

The Result Is Improved On-line Response Times, Improved Batch Thruput And More Efficient CPU Use

Data In Memory Candidates Include
- System Code - Application Code - Program Libraries
- Sort Work Areas - Data Sets - Data Base Buffers



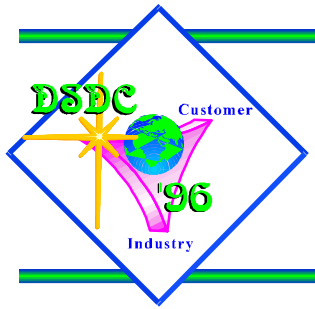
EXAMPLE

DLA Example

SAMMS Master Files Are Accessed Via A DLA Developed API Called SAMSAM

Under MVS/XA, SAMSAM Uses Memory In Its Address Space As A Data Cache In Order To Reduce Disk I/O

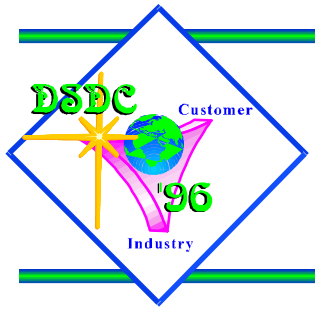
Under MVS/ESA, Data Spaces Could Be Used To Greatly Enhance This Capability



POSSIBILITIES - OS/390

What Becomes Possible With MVS/ESA

- As Noted MVS/ESA Provides Standards Compliant UNIX Services
- This Means That The Mainframe Is Now Capable Of Serving As A Large, Reliable and Secure Data Server For Mid-Tier Applications
- This Could Eliminate The Need For The Data Uploads and Downloads
- If Properly Developed, Applications Would Be Directly Portable Between The Mainframe And The Mid-Tier
- It Would Be Possible To Run Related Applications Like SAMMS And DPACS On The Same Mainframe

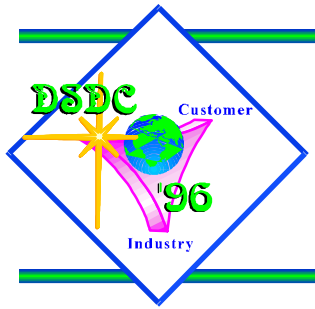


CONCLUSION

DLA Will Be Converting To MVS/ESA

This Will Allow The Mainframe To Continue To Serve DLA's Business Needs

It Will Also Allow DLA To Leverage Its Long Standing Investment In Mainframe Applications And Adapt Them To Provide Continued Service In A Standards Compliant Environment



QUESTIONS

MVS/ESA

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